Preparation of Antibody to Fin-fiber*

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The detailed biochemical analysis made by Kimura *et al.* (presented elsewhere in this volume) of the horny fin-fiber from the carcass of the unidentified animal trawled off New Zealand has revealed that the fiber is closely similar in amino acid composition to the horny fin-rays of the basking shark. Apart from their chemical study, a series of experiments is in progress in our laboratory in the hope of providing immunological data for the identification of the horny fiber of the unidentified animal. Though collagens are generally known to be at best weak antigens, several studies have shown the immunogenecity of solubilized human and calf collagens (Schmitt *et al.*, 1964; Frey *et al.*, 1965).

In order to obtain antibody against the horny fin-fiber of the unidentified animal, rabbits were immunized with non-treated or solubilized fin-fiber from the carcass. It is planned to verify the presence of antibody by means of complement fixation for non-treated fiber and by means of complement fixation and/or Ouchterlony technique for solubilized fiber, and to test the cross reaction of antiserum with the horny fin-rays of the basking shark. The following are the procedures for the experiments part of which have already been undertaken and part of which are still left to be completed:

1. Preparation of antibody.

1) Experiment with non-treated fiber as an antigen.

A piece of the horny fin-fiber is powdered and suspended in physiological saline solution at a concentration of 10 mg powder/ml. To the suspension is then added the same volume of complete Freund's adjuvant. This suspension is injected into the toe pads of 2~2.5 kg rabbits at a dosage of 10 mg powder per animal two times at an interval of three weeks. The rabbits are bled three weeks after second injection.

2) Experiment with solubilized fiber as an antigen.

The fin-fiber is solubilized following the methods of Gallop and Seifter (1963). Other procedures are the same as described above.

2. Examination of antibody and cross reaction.

1) Antibody to the non-treated fiber.

The reaction of the antiserum with the powdered fiber of the unidentified animal and with the powdered fin-ray from the basking shark is performed by means of complement fixation (Wasserman and Levine, 1961).

2) Antibody to the solubilized fiber.

The reaction of the antiserum with the solubilized fiber of the unidentified animal and with the solubilized fin-ray from the basking shark is examined by Ouchterlony technique and complement fixation method.

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The results of these immunological tests will provide an answer to the question whether or not the horny fin-fiber of the unidentified animal from New Zealand is identical with the horny fin-rays (ceratotrichia) of the basking shark. Also interesting are experiments with fin-rays of other species of shark.

Literature cited

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